UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,554	11/25/2003	Ho Yong Kang	2013P133	1228

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EXAMINER
HAILU, KIBROM T

ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
06/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

		Application No.	Applicant(s)	
Office Action Summary		10/724,554	KANG ET AL.	
		Examiner	Art Unit	
		Kibrom T. Hailu	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>25 November 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☒ Claim(s) *5-14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>25 November 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

3.   Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sang et al.

(US 2004/0057431) in view of Song et al. (US 2003/0235205).

Regarding claim 1, Song (US 2004/0057431) discloses a communication apparatus in an

Ethernet-passive optical network (EPON) (Abstract; paragraph [0003])), the communication

apparatus comprising: an emulation sublayer (208, RS (Emulation Function)), which extracts

logical link identification (LLID) information from a preamble included in a frame (paragraph

[0014]); and a passive optical network (PON) bridge sublayer, which creates and manages a

filtering address table for a destination media access control (MAC) address and a virtual LAN

(VLAN) ID in response to the LLID information (Fig. 4 and 5; paragraph [0013], lines 5-13;

[0041]; [0043]-[0044], illustrate the bridge manages the MAC address table according to the

LLID, and checks whether the transmission is multicast or not based on the LLID. Note that

VLAN is simply multicasting or broadcasting based on the LLID, and is known in the art),

Song (US 2004/0057431) doesn't discloses determines whether to forward the frame to

the upper layer of the PON bridge sublayer or to reflect the frame toward an optical network unit

(ONU), and provides point-to-point communications between a plurality of ONUs connected to

the EPON and VLAN multicasting.

Song (2003/0235205) teaches determines whether to forward the frame to the upper

layer of the PON bridge sublayer or to reflect the frame toward an optical network unit (ONU),

and provides point-to-point communications between a plurality of ONUs connected to the

EPON and VLAN multicasting (Fig. 10; paragraph [0048]; [0019]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to use the bridge function layer 570 of OLT that provides one-to-one or

peer-to-peer communication between the plurality of the ONUs as taught by Song

(2003/0235205) into the EPON communication of Song (2004/0057431) in order to perform a

peer-to-peer (P2P) transmission in a conventional point-to-multipoint PON 802.1D system

(paragraph [0017]; [0018], lines 4-8).

Regarding claim 2, Song (2004/0057431) discloses data transceiving between the

emulation sublayer and a physical layer is performed through a gigabit media independent

interface (GMII) (Fig. 3, illustrates GMII links the physical layer to the RS (Emulation Function

208) for data transceiving).

Since Song discloses GMII link connecting physical layer to the RS, it is obvious to one

having ordinary skill in the art to realize a connecting portion of the upper layer is connected to

either one of a plurality of common switches or a network processor (NP) through either the

GMII or a system physical interface (SPI) for the purpose of sending and/receiving frame in and

out of the bridge.

Regarding claim 4, Song (2004/0057431) discloses the communication is either an

optical line termination (OLT) connected to a point-to-multipoint network established in the

EPON or one of a plurality of ONUs connected to a subscriber side (Fig. 1; paragraph [0007]-

[0008], explains the OLT connected to plurality of ONUs in a point-to-multipoint network in the

EPON to send/receive data).

Allowable Subject Matter

4.   Claims 5-14 are objected to as being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the limitations of the base claim and

any intervening claims.

Conclusion

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kibrom T. Hailu whose telephone number is (571)270-1209. The

examiner can normally be reached on Monday-Thursday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ricky Q. Ngo can be reached on (571)272-3139. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kibrom Hailu

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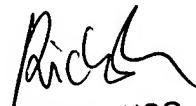
RICKY Q. NGO
SUPERVISORY PATENT EXAMINER